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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,682	11/13/2003	Alexander Lifson	60,246-237; 10,668	9105

26096 7590 03/11/2005

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EXAMINER

TANNER, HARRY B

ART UNIT PAPER NUMBER

3744

DATE MAILED: 03/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

5N

Office Action Summary	Application No. 10/712,682	Applicant(s) LIFSON ET AL	
	Examiner Harry B. Tanner	Art Unit 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/13/03</u> . | 6) <input type="checkbox"/> Other: ____ |

The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Number 11 is used twice to number a claim at the bottom of page 9 and a claim at the top of page 10.

Misnumbered claims 12-15 and claim 11 on page 10 have been renumbered 13-16 and 12 respectively.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Shaw. Shaw discloses shutoff valves 66 and 66' for shutting off individual compressor from the system as desired.

Claims 1 and 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Amata et al. Amata discloses a variable capacity refrigeration system in which one or more compressors are stopped in response to the load requirements of the system and check valves in the compressor discharge prevent refrigerant discharged from operating compressors from entering the stopped compressors.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaw in view of Official Notice. Official Notice is taken that the use of electrical solenoid valves to shut parts of a refrigeration system off from the rest of the system is well known in the refrigeration art. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Shaw such that it included the use of electrical solenoid valves as shutoff valves 66 and 66' in order to provide convenient means for operating the shut off valves. Biasing the valves in an open position would have been obvious to one of ordinary skill in order to allow the system continue to operate should the valve control fail to operate properly.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shaw as applied to claim 1 above, and further in view of Kiyokawa et al. It would have been obvious to one of ordinary skill in the art to have modified the system of Shaw such that the compressors were of the scroll type in view of the teachings of Kiyokawa to provide scroll compressors 25 in a parallel arrangement in which the discharge line 6,7 of each compressor is connected to a single outlet line 8 (see Figure 3).

Claims 2-4, 6, 10, 11 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amata et al as applied to claim 1 above, and further in view of Shaw.

Amata discloses controlling the number of operating compressor according to refrigerant load in which check valves 20 and 24 prevent refrigerant from entering the non-operating compressors. Shaw teaches the use of a shutoff valve 66 downstream of the check valve 64 in order to provide a positive shutoff of an inactive compressor from the rest of the operating system. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Amata such that it included the use of a shutoff valve downstream of the check valve in order to provide a positive shutoff of an inactive compressor from the rest of the operating system in view of the teachings of Shaw. The use of a solenoid valve such as the many used by Amata (i.e. 29, 30, 23 etc.) for providing such a shutoff valve would clearly have been obvious to one of ordinary skill in the art since solenoid valves are the most common means for closing a refrigerant line. The opening of the solenoid valve just before the compressor is started, just after the compressor is started or immediately after the compressor is started are all obvious variations of valve and compressor sequencing that would not produce a significant difference in system operation or performance between the different sequencings.

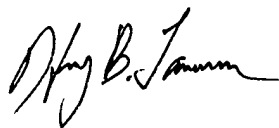
Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amata et al in view of Shaw as applied to claim 2 above, and further in view of Kiyokawa. It would have been obvious to one of ordinary skill in the art to have modified the system of Amata such that the compressors were of the scroll type in view of the teachings of Kiyokawa to provide scroll compressors 25 in a parallel arrangement

in which the discharge line 6,7 of each compressor is connected to a single outlet line 8 (see Figure 3).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harry B. Tanner whose telephone number is (571) 272-4813. The examiner can normally be reached 8:30 am to 6:00 pm Monday, Tuesday, Wednesday and Friday and 2:00 pm to 6:00 pm Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Denise Esquivel, can be reached on (571) 272-4808. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://portal.uspto.gov/external/portal/pair>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Harry B. Tanner
Primary Examiner
Art Unit 3744